SAMPLING VARIABILITY

Estimates based on sample data may differ from the figures that would have been obtained had all, rather than a sample, of the records been used. These differences are termed sampling variability. The standard error is a measure of sampling variability; that is, the variation that occurs by chance because a sample is used. The standard error is used to describe confidence intervals. The confidence interval represents the extent to which the sample results can be relied upon to describe the results that would occur if the entire population (universe) had been used for data compilation rather than the sample.

In about 68 percent of all possible probability samples with the same selection criteria, the universe value would be included in the interval from one standard error below to one standard error above the sample estimate. Similarly, about 95 percent of all possible samples will give estimates within two standard errors, and about 99 percent will give estimates within two and one-half standard error.

Tables A, B, and C provide approximation of standard errors of estimates shown in this report. Table A presents approximate standard errors for the estimated number of recipients from the1-percent and 10-percent sample files. Table B presents approximations of standard errors for the estimated percentage of persons from the 1-percent file. Similar information about the 10-percent file is shown in Table C. Linear interpolation may be used to obtain values not specifically shown.

Table A.-Approximations of standard errors of estimated numbers of persons

1-percent file		10-percent file	
Size of estimated (inflated)	Standard error	Size of estimate (inflated)	Standard error
500	250	100	30
1,000	300	500	70
2,500	500	1,000	100
5,000	800	5,000	225
7,500	900	10,000	300
10,000	1,100	50,000	700
25,000	1,700	100,000	1,000
50,000	2,400	500,000	2,200
75,000	3,000	1,000,000	3,200
100,000	3,400	5,000,000	6,500

Table B.-Approximations of standard errors of estimated percentages of persons from a 1-percent file

Size of base (inflated)	Estimated percentage				
	2 or 98	5 or 95	10 or 90	20 or 75	50
1,000	4.7	7.3	10.1	14.5	16.8
10,000	1.5	1.2	3.2	4.6	5.3
50,000	.7	1.0	1.4	2.1	2.4
100,000	.5	.7	1.0	1.5	1.7

Table C.-Approximations of standard errors of estimated percentages of persons from the 10-percent file

Size of base (inflated)	Estimated percentage				
	2 or 98	5 or 95	10 or 90	20 or 75	50
500	1.9	3.0	4.1	5.9	6.8
1,000	1.3	2.1	2.9	4.1	4.8
2,500	.8	1.3	1.8	2.6	3.0
10,000	.4	.6	.9	1.3	1.5
50,000	.2	.3	.4	.6	.7
100,000	.1	.2	.3	.4	.5
1,000,000	*	.1	.1	.1	.2
10,000,000	*	*	*	.1	.1

- Less than 0.05 percent